CLAIMS

1. An alkali etchant for controlling surface roughness of a semiconductor wafer, which is a sodium hydroxide solution having a weight concentration of 55 wt% to 70 wt%.

2. The alkali etchant for controlling surface roughness of a semiconductor wafer as set forth in claim 1, wherein a temperature of the solution is 80°C to 90°C when weight concentration of said sodium hydroxide solution is 60 wt% to 70 wt%, and a temperature of the solution is 85°C to 90°C when weight concentration of said sodium hydroxide solution is 55 wt% to 60 wt%.

3. A production method of a semiconductor wafer comprising the step of etching a main surface of a both-side mirror finished semiconductor wafer by bringing the main surface contact with a sodium hydroxide solution, wherein a temperature is 80°C to 90°C and weight concentration is 60 wt% to 70 wt%, or a sodium hydroxide solution, wherein a temperature is 85°C to 90°C and weight concentration is 55 wt% to 60 wt%.

4. The production method of a semiconductor wafer as set forth in claim 3, furthermore comprising the step of neutralizing by an acid solution the main surface of the wafer contacted with said etchant after said etching step.

5. The production method of a semiconductor wafer as set forth in claim 4, wherein said acid solution contains ozone.

6. The production method of a semiconductor wafer as set forth in claim 4, wherein a wafer surface is processed by using an ozone solution after the neutralizing step by said acid solution.